

Table 3-1

Sampling Locations and Rationale
Hand Grenade Range, Range 32, Parcel 90Q-X
Fort McClellan, Calhoun County, Alabama

Sample Location	Sample Media	Sample Location Rationale
HR-90Q-MW01	Surface soil, subsurface soil, groundwater	Surface soil, subsurface soil, and groundwater samples were collected in the grenade practice throwing area of Parcel 90Q-X to determine if contaminant releases into the environment have occurred from use of this area and if contaminated soil exists at this site.
HR-90Q-MW02	Surface soil, subsurface soil, groundwater	Surface soil, subsurface soil, and groundwater samples were collected in the north-central portion of Parcel 90Q-X to determine if contaminant releases into the environment have occurred from use of this area and if contaminated soil exists at this site.
HR-90Q-MW03	Surface soil, subsurface soil, groundwater	Surface soil, subsurface soil, and groundwater samples were collected on the southern side of Parcel 90Q-X, in the live grenade impact area, east of the firing bays to determine if contaminant releases into the environment have occurred from use of this area and if contaminated soil exists at this site.
HR-90Q-MW04	Surface soil, subsurface soil, groundwater	Surface soil, subsurface soil, and groundwater samples were collected on the southern portion of Parcel 90Q-X, near the southwestern end of the live grenade firing line to determine if contaminant releases into the environment have occurred from use of this area and if contaminated soil exists at this site.
HR-90Q-MW05	Surface soil, subsurface soil, groundwater	Surface soil, subsurface soil, and groundwater samples were collected on the southern side of Parcel 90Q-X, in the live grenade impact area to determine if contaminant releases into the environment have occurred upgradient of this area and if contaminated soil exists upgradient of this site.
HR-90Q-DEP01	Depositional soil	A depositional soil sample was collected on the southern side (upslope) of Parcel 90Q-X and the live grenade firing line to determine if contaminant releases have occurred from runoff upslope of Parcel 90Q-X.
HR-90Q-DEP02	Depositional soil	A depositional soil sample was collected on the southeastern side of Parcel 90Q-X, downslope of the live grenade firing line to determine if contaminant releases have occurred from runoff in the live fire firing line area of Parcel 90Q-X.
HR-90Q-DEP03	Depositional soil	A depositional soil sample was collected at northeastern boundary of Parcel 90Q-X, south of Kellog Drive, before the intermittent drainage path discharges into South Branch of Cane Creek to determine if contaminant releases have occurred from runoff in the area of Parcel 90Q-X.
HR-90Q-DEP04	Depositional soil	A depositional soil sample was collected outside the southeastern boundary of Parcel 90Q-X on an intermittent stream that flows north in the eastern section of the parcel to determine if contaminant releases have occurred from runoff upslope of Parcel 90Q-X.

Table 3-2

**Soil Sample Designations and QA/QC Samples
Hand Grenade Range, Range 32, Parcel 90Q-X
Fort McClellan, Calhoun County, Alabama**

Sample Location	Sample Designation	Sample Depth (ft. bgs)	QA/QC Samples			Analytical Suite
			Field Duplicates	Field Splits	MS/MSD	
HR-90Q-MW01	HR-90Q-MW01-SS-YN0001-REG	0-1			HR-90Q-MW01-SS-YN0001-MS	TAL Metals, Explosives
	HR-90Q-MW01-DS-YN0002-REG	5.5-6.5			HR-90Q-MW01-SS-YN0001-MSD	
HR-90Q-MW02	HR-90Q-MW02-SS-YN0003-REG	0-1				TAL Metals, Explosives
	HR-90Q-MW02-DS-YN0004-REG	5.5-6.5				
HR-90Q-MW03	HR-90Q-MW03-SS-YN0005-REG	0-1				TAL Metals, Explosives
	HR-90Q-MW03-DS-YN0006-REG	11-12				
HR-90Q-MW04	HR-90Q-MW04-SS-YN0007-REG	0-1	HR-90Q-MW04-SS-YN0008-FD	HR-90Q-MW04-SS-YN0009-FS		TAL Metals, Explosives
	HR-90Q-MW04-DS-YN0010-REG	2-4				
HR-90Q-MW05	HR-90Q-MW05-SS-YN0011-REG	0-1				TAL Metals, Explosives
	HR-90Q-MW05-DS-YN0012-REG	5.5-6.5				
HR-90Q-DEP01	HR-90Q-DEP01-DEP-YN1001-REG	0-0.5				TAL Metals, Explosives, TOC, Grain Size
HR-90Q-DEP02	HR-90Q-DEP02-DEP-YN1002-REG	0-0.5				TAL Metals, Explosives, TOC, Grain Size
HR-90Q-DEP03	HR-90Q-DEP03-DEP-YN1003-REG	0-0.5				TAL Metals, Explosives, TOC, Grain Size
HR-90Q-DEP04	HR-90Q-DEP04-DEP-YN1004-REG	0-0.5				TAL Metals, Explosives, TOC, Grain Size

FD - Field duplicate.

FS - Field split.

ft. bgs - Feet below ground surface.

MS/MSD - Matrix spike/matrix spike duplicate.

QA/QC - Quality assurance/quality control.

REG - Field sample.

TAL - Target analyte list.

TOC - Total organic carbon.

Table 3-3

**Monitoring Well Construction Summary
Hand Grenade Range, Range 32, Parcel 90Q-X
Fort McClellan, Calhoun County, Alabama**

Well Location	Northing	Easting	Ground Elevation (ft above msl)	TOC Elevation (ft above msl)	Well Depth (ft bgs)	Screen Length (ft)	Screen Interval (ft bgs)	Well Material
HR-90Q-MW01	1159971.05	676368.41	935.08	937.35	19	10	9 - 19	2" ID Sch. 40 PVC
HR-90Q-MW02	1160053.39	675834.74	921.55	923.61	59	15	42 - 57	2" ID Sch. 40 PVC
HR-90Q-MW03	1159225.13	675781.73	1022.89	1025.18	83	25	58 - 83	2" ID Sch. 40 PVC
HR-90Q-MW04	1159244.68	675551.24	1045.00	1047.14	68	20	48 - 68	2" ID Sch. 40 PVC
HR-90Q-MW05	1159092.32	675749.52	1024.54	1026.56	83	20	63 - 83	2" ID Sch. 40 PVC

Permanent monitoring wells installed using hollow-stem auger.

Horizontal coordinates referenced to the U.S. State Plane Coordinate System, Alabama East Zone, North American Datum of 1983 (NAD83).

Elevations referenced to the North American Vertical Datum of 1988 (NAVD88).

2" ID Sch. 40 PVC - 2-inch inside diameter, Schedule 40, polyvinyl chloride.

bgs - Below ground surface.

ft - Feet.

msl - Mean sea level.

TOC - Top of casing.

Table 3-4

**Groundwater Elevations
Hand Grenade Range, Range 32, Parcel 90Q-X
Fort McClellan, Calhoun County, Alabama**

Well Location	Date	Depth to Water (ft BTOC)	Top of Casing Elevation (ft above msl)	Ground Elevation (ft above msl)	Groundwater Elevation (ft above msl)
HR-90Q-MW01	11-Jun-01	15.81	937.35	935.08	921.54
HR-90Q-MW02	11-Jun-01	26.40	923.61	921.55	897.21
HR-90Q-MW03	11-Jun-01	40.32	1025.18	1022.89	984.86
HR-90Q-MW04	11-Jun-01	70.30	1047.14	1045.00	976.84
HR-90Q-MW05	11-Jun-01	38.20	1026.56	1024.54	988.36

Elevations referenced to the North American Vertical Datum of 1988 (NAVD88).

BTOC - Below top of casing.

ft - Feet.

msl - mean sea level.

Table 3-5

**Groundwater Sample Designations and QA/QC Samples
Hand Grenade Range, Range 32, Parcel 90Q-X
Fort McClellan, Calhoun County, Alabama**

Sample Location	Sample Designation	QA/QC Samples			Analytical Suite
		Field Duplicates	Field Splits	MS/MSD	
HR-90Q-MW01	HR-90Q-MW01-GW-YN3001-REG			HR-90Q-MW01-GW-YN3001-MS HR-90Q-MW01-GW-YN3001-MSD	TAL Metals, Explosives
HR-90Q-MW02	HR-90Q-MW02-GW-YN3002-REG				TAL Metals, Explosives
HR-90Q-MW03	HR-90Q-MW03-GW-YN3003-REG				TAL Metals, Explosives
HR-90Q-MW04	HR-90Q-MW04-GW-YN3004-REG				TAL Metals, Explosives
HR-90Q-MW05	HR-90Q-MW05-GW-YN3005-REG	HR-90Q-MW05-GW-YN3006-FD	HR-90Q-MW05-GW-YN3007-FS		TAL Metals, Explosives

FD - Field duplicate.

FS - Field split.

MS/MSD - Matrix spike/matrix spike duplicate.

QA/QC - Quality assurance/quality control.

REG - Field sample.

TAL - Target analyte list.

Table 3-6

**Groundwater Field Parameters
Hand Grenade Range, Range 32, Parcel 90Q-X
Fort McClellan, Calhoun County, Alabama**

Sample Location	Sample Date	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Temperature (°C)	Turbidity (NTU)	pH (SU)
HR-90Q-MW01	27-Oct-00	0.168	2.36	305	19.7	4.82	6.06
HR-90Q-MW02	26-Oct-00	0.022	3.39	49.5	17.1	3.17	5.03
HR-90Q-MW03	16-Nov-00	0.018	NR	NR	11.0	10	4.96
HR-90Q-MW04	24-Oct-00	0.230	3.43	350	18.1	989	5.70
HR-90Q-MW05	25-Oct-00	0.046	8.96	515	22.6	70.5	5.65

°C - Degrees Celsius.

mg/L - Milligrams per liter.

mS/cm - Millisiemens per centimeter.

mV - Millivolts.

NR - Not recorded.

NTU - Nephelometric turbidity units.

ORP - Oxidation-reduction potential.

SU - Standard units.